

The disposition of the types is as follows: Two in the collection of Mr. F. S. Carr, Edmonton, Alta., one each in the Museum of Comparative Zoology at Cambridge, the collection of the Boston Society of Natural History, the National Museum collection at Washington, the collection of H. C. Fall, and seven in my own collection.

## A SYNOPTIC REVISION OF THE ANTHOMYIID GENUS HYDROPHORIA ROBINEAU-DESVOIDY (DIPTERA).

BY J. R. MALLOCH,  
Urbana, Ill.

The species of this genus with the exception of *subpellucens* Malloch are entirely black, with the tibiae yellowish in a few cases. The thorax is usually distinctly trivittate, and the abdomen has a black dorsocentral vitta. With the single exception of *nigerrima* Malloch the American species known to me have the halteres with yellow knobs, and all have the arista distinctly hairy.

There are, I consider, two genera included under this generic name, separable as indicated in the first two captions of my key, but it is impossible for me to decide with the data available to me what the correct generic names are. *Acroptena* Pokorny is undoubtedly applicable to the group with hairy hypopleura, this character being used in this key for the first time, but whether *Hydrophoria* is synonymous or not I am unable to say as I do not have the type species before me. My object at this time is to place before students of the family data for the identification of their material in the composite group, such being of more importance than the separation of the larger segregates.

It is not at all improbable that some of the species recently described by me from America will eventually prove to be the same as European species previously described, but the species are so very similar that only a comparison of European and American examples will suffice to decide their specific identities. Comparison of European examples of *ruralis* Meigen and *subpellucens* Malloch proves that they are very closely allied if not identical, but there are some characters which do not agree entirely, and for the present I have decided to consider them as distinct.

The larvæ, so far as I know, are aquatic, and the species are mostly northern in their distribution, commonest in the northwest.

### KEY TO SPECIES.

#### MALES.

1. Hypopleura with some long hairs on upper margin in front of spiracle... 2.  
Hypopleura bare..... 8.
2. Halteres black; deep black species, with thorax and abdomen almost devoid of gray pruinescence; eyes separated by more than width across posterior ocelli, the orbits each with a series of long hairs along the inner margin..... *nigerrima* Malloch  
Halteres with yellow or pale knobs; thorax and abdomen with gray pruinescence; eyes usually separated by less than width across posterior ocelli..... 3.
3. Basal segment of hypopygium with very many stout bristles which are

- downwardly directed and slightly curved; the segment before it glossy, with 3 long bristly hairs on each side of disc..... *arctica* Malloch.  
 Basal segment of hypopygium either with short hairs or bristles on sides or with slender bristly hairs, or the segment in front of it is highly glossy and bare, or pruinose and sparsely hairy.....4.
4. Segment in front of basal hypopygial glossy, bare; hind tibia with 4 posterodorsal bristles..... *polita* Malloch.  
 Segment in front of basal hypopygial more or less pruinose and with numerous bristly hairs..... 5.
5. Upper calyptra dark-haired at lateral angle; bristles on abdominal tergites most dense and stronger on the portions incurved ventrad..... *katmaiensis* Malloch.  
 Calyptrae entirely pale-haired; bristles on tergites strongest at apices on dorsum.....6.
6. Mid femur with 3 or 4 short, strong bristles on basal half of anteroventral surface; hind tibia with 3 posterodorsal bristles..... *occidentalis* Malloch.  
 Mid femur without bristles on basal half of anteroventral surface; hind tibia with 2 posterodorsal bristles.....7.
7. Eyes separated by more than width across posterior ocelli; mid tibia with a small, anteroventral bristle; processes of fifth abdominal sternite moderately stout, with very minute hairs on their apical halves, and a sparse fringe of hairs on their inner margins on basal half..... *proxima* Malloch.  
 Eyes separated by less than width across posterior ocelli; mid tibia without an anteroventral bristle; processes of fifth abdominal sternite slender, with long hairs to apices, their inner margins with a fringe of closely-placed, rather long hairs on basal half..... *divisa* Meigen.
8. Fourth tergite (third visible) without a dense tuft of fuscous bristly hairs, which are backwardly directed, at each posterior lateral angle..... 9.  
 Fourth tergite with a tuft of fuscous bristles or hairs at each posterior lateral angle.....13.
9. Abdomen with sides of second and third tergites largely yellowish testaceous; legs brownish, not deep black; arista with its longest hairs about as long as width of third antennal segment..... *subpellucens* Malloch.  
 Abdomen and legs entirely black; longest hairs on arista not as long as width of third antennal segment..... 10.
10. Hind tibia with a few bristly hairs on posterior surface basad of middle.....10 a.  
 Hind tibia without bristly hairs on posterior surface; hypopygium with strongest bristles at or near its base.....11.
- 10a. Narrowest part of frons not wider than distance between posterior ocelli; process of fifth sternite elongate, subcylindrical, their inner margins with a few fine hairs, their outer margins with some long bristles..... *galeata* Malloch.  
 Narrowest part of frons as wide as distance across posterior ocelli; process of fifth sternite short, broad, glossy, their inner margins fringed with long, fine hairs, their outer margins bare..... *seticauda* Malloch.

11. Parafacial in profile at base of antennæ distinctly broader than third antennal segment; eyes separated by at least as great a distance as width across posterior ocelli; processes of fifth sternite broad, fringed along their inner margins with fine hairs, the disc with a few bristly hairs.....12.
- Parafacial in profile at no point as broad as third antennal segment; eyes separated by about width of anterior ocellus; processes of fifth sternite narrow, fringed along their inner margins with hairs which apically become longer and are incurved, the disc with long, bristly hairs which are similar to those on inner margins..... *uniformis* Malloch.
12. Thorax with at least one pair of well-developed presutural acrostichals; mesopleura with 3 or 4 bristles near upper anterior angle..... *coloradensis* Malloch.
- Thorax without distinguishable presutural acrostichals, with fine hairs only; mesopleura with a few bristly hairs near anterior upper angle... 12a.
- 12a. Longest hairs on arista much longer than its basal diameter; hind tibia with three posterodorsal bristles..... *flavohalterata* Malloch.
- Longest hairs on arista not as long as its basal diameter; hind tibia with three long and one or two short posterodorsal bristles. *congrua* Malloch.
13. Fourth (visible) tergite at middle much shorter than third; hind femur without bristles on posteroventral surface except one at apex and a small one near base; arista plumose basally..... *elongata* Malloch.
- Fourth tergite at least as long as third; hind femur with some bristles on basal half of posteroventral surface..... 14.
14. Third tergite with very short bristles in lateral tuft, the tuft not conspicuous, the tergite not much narrowed laterally; longest hairs on arista longer than its basal diameter..... *borealis* Malloch.
- Third tergite with a conspicuous tuft of long bristles at lateral margin, the tergite much narrowed laterally..... 15.
15. Longest hairs on arista about as long as width of third antennal segment; tergal tuft very dense, the bristles rather uniform in length, not extending beyond apex of fourth tergite..... *ambigua* Meigen.
- Longest hairs on arista not longer than its basal diameter; tergal tuft not very dense, the bristles of unequal lengths, some of them extending to apex of abdomen..... *alaskensis*, sp. n.

## FEMALES.

1. Hypopleura with a few long hairs on upper margin in front of spiracle, rarely these hairs absent or almost so, but all species have the orbits with a number of setulose hairs, which are sometimes very long, laterad of the supraorbital bristles; apical genital segment without short-curved spines.....2
- Hypopleura bare; no setulose hairs laterad of the supraorbitals; apical genital segment with a few short-curved spines or bristles besides the usual hairs..... 5.
2. Halteres black; mid femur with a few strong bristles and numerous long setulose hairs on anteroventral surface; parafacial in profile distinctly broader than third antennal segment..... *nigerrima* Malloch.
- Halteres with yellow knobs.....3

3. At least the hind tibia partly or entirely yellowish testaceous; mid tibia without an anteroventral bristle; hind tibia with 2 posterodorsal bristles.....*divisa* Meigen.  
 All tibiae black; mid tibia with an anteroventral bristle; hind tibia with 3 or more posteroventral bristles.....4.  
 All tibiae black or fuscous; mid tibia with an anteroventral bristle; hind tibia with 2 posterodorsal bristles.....*proxima* Malloch.
4. Dorsum of thorax and abdomen slightly blue-gray pruinose; longest hairs on arista much shorter than width of third antennal segment; mid tibia with one anterodorsal bristle.....*arctica* Malloch.  
 Dorsum of thorax and abdomen densely pale gray pruinose; longest hairs on arista at least as long as width of third antennal segment mid tibia with 2 anterodorsal bristles.....*polita* Malloch.
5. Legs brown or dull yellowish, not deep black; basal dorsal abdominal segment largely yellowish testaceous on each side; hind tibia with 2 posterodorsal bristles; longest hairs on arista distinctly longer than width of third antennal segment; small species, not over 5 mm. in length.....*subpellucens* Malloch.  
 Legs deep black; abdomen not yellowish at base; hind tibia with 3 or more bristles on posterodorsal surface, the basal one sometimes very weak...6.
6. Hind femur with several long hair-like bristles at base on posteroventral surface.....7.  
 Hind femur with one bristle at base on posteroventral surface.....11.
7. Costal thorns both small, sometimes barely distinguishable from the adjacent setulae, never as long as the inner cross-vein; parafacial in profile conspicuously narrowed below, not nearly as wide as third antennal segment at lower margin of eye.....*uniformis* Malloch.  
 At least one of the costal thorns long and conspicuous, sometimes as long as the inner cross-vein; parafacial in profile but little narrowed below, as wide as third antennal segment for nearly its entire length.....8.
8. Hairs on arista not longer than its basal diameter; mid tibia with 2 anteroventral bristles; spines on apical genital segment short and strong, 12-14 in number; hind tibia with one or more posterior setulae.....*alaskensis*, sp. n.  
 Hairs on arista much longer than its basal diameter; mid tibia with 1 anteroventral bristle.....9.
9. Thorax with two or three pairs of weak acrostichals and some hairs in front of suture; genital segment similar to that of *alaskensis*.....*seticauda* Malloch.  
 Thorax with central area in front of suture with 4 or 6 series of weak hairs.....10.
10. Apical genital segment with about a dozen short, strong spines; hind tibia with 4 posterodorsal bristles.....*borealis* Malloch.  
 Apical genital segment with 2 fine, short bristles and some hairs; hind tibia with two or three posterodorsal bristles *flavohalterata* Malloch.
11. Mid tibia with one or more short bristles immediately basad of the anterodorsal one; thorax with two or three pairs of presutural acrostichals.....*elongata* Malloch.

Mid tibia without short bristle above the anterodorsal one; thorax usually without presutural acrostichals.....*ambigua* Meigen.

### *Hydrophoria alaskensis*, sp. n.

*Male and Female*.—Thorax indistinctly trivittate. Abdomen with distinct dorsocentral vitta. Legs black. Wings slightly brownish in basal cells. Calyptrae white. Halteres yellow.

*Male*.—Narrowest part of frons about one-tenth of the head-width; parafacial at base of antennae at least as wide as third antennal segment; longest hairs on arista about twice the basal diameter of arista; cheek about one-fourth as high as eye. Presutural acrostichals weak. Abdomen with very long bristles on sides of third tergite, some of which extend to or beyond apex of abdomen. Fore tibia with one anterodorsal and one posterior bristle at middle; mid tibia with two anteroventral, one or two anterodorsal, and four posterior bristles; hind tibia with four or five anteroventral, an uneven series on anterodorsal, and three posterodorsal bristles, and a few weak posterior setulae.

*Female*.—Eyes separated by about one-third of the head-width; interfrontalia with a pair of cruciate bristles.

Length 5 mm.

*Type*.—St. George Island Behring Straits, June 8, 1914. Allotype and 72 paratypes, same locality, June 10-25, 1914, (G. D. Hanna). Paratypes, 6 specimens, St. Paul Island, Alaska, August, 1910, and three specimens, Pribilof Islands, Alaska, August, 1910, (H. Heath).

The specimens from St. George Island are in the collection of the United States Bureau of Biological Survey, those from the other localities are in the collection of the University of California.

The description of this species was written about six years ago from a report of the insects of the Pribilof Islands which has not yet appeared in print, and it is now included to make as complete as possible the synopsis in this paper.

---

## THE PEA MOTH A NEW SPECIES.

BY CARL HEINRICH,

Washington, D. C.

### *Laspeyresia novimundi*, n. sp.

Palpi, face, head and base of patagiae dirty, whitish ochreous. Thorax dark lead gray. Fore wings dark greyish fuscous with a leaden gloss and in apical third a faint red brown suffusion; on costa from middle to apex six short white geminate dashes inwardly margined by black; from the first of these extends a lead bar joining and forming with the inner vertical bar of ocellus a narrow glossy and fairly distinct, angulate fascia; from the third geminate dash a similar and parallel leaden streak runs toward but does not quite meet the outer vertical bar of the ocellus; between the two a thin irregular line of black scales; ocellus with four short, narrow, longitudinal lines, bordered on inner and outer sides by a vertical bar of semi-lustrous lead coloured scales; cilia concolorous with wing. Hind wing dark brown, somewhat paler toward base; cilia pale brown at their base shading to white beyond. Underside of fore and hind wings a